



## ACJT110 Series 1A TRIACs

### DESCRIPTION:

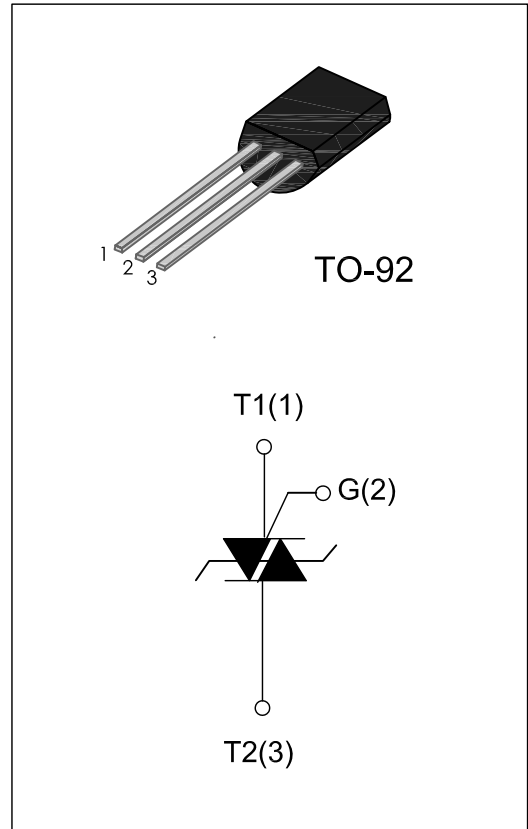
Sensitive gate triac in the TO-92 plastic package, intended for use in AC static switching and industrial control systems, driving low power highly inductive loads like solenoid, pump, fan, and micro-motor.

### FEATURES:

- ★  $dV/dt \geq 500V/\mu S$ ; high tolerance to external severe application environment such as EMC
- ★ High Voltage blocking capability

### MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	1	A
$I_{GT}$	$\leq 10$	mA
$V_{TM}$	$\leq 1.6$	V



### ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit	
Storage junction temperature range		$T_{stg}$	- 40 to +150	$^{\circ}C$	
Operating junction temperature range		$T_j$	- 40 to +125	$^{\circ}C$	
Repetitive Peak Off-state Voltage Repetitive Peak Reverse Voltage	ACJT110-1000	$T_j = 25^{\circ}C$	$V_{DRM}$ $V_{RRM}$	1000	V
	ACJT110-1200			1200	V
Non repetitive Surge Peak Off-state Voltage		$T_j = 25^{\circ}C$	$V_{DSM}$	$V_{DRM} + 100$	V
Non repetitive Peak Reverse Voltage		$T_j = 25^{\circ}C$	$V_{RSM}$	$V_{RRM} + 100$	V
RMS on-state current (full sine wave)		$T_c = 57^{\circ}C$	$I_{T(RMS)}$	1	A
Non repetitive surge peak on-state current (One Full Cycle, Sine Wave, $T_c = 110^{\circ}C$ )		$t_p = 10ms$	$I_{TSM}$	10	A
		$t_p = 8.3ms$		11	A
I <sup>2</sup> t Value for fusing		$t_p = 10ms$	$I^2t$	1.12	A <sup>2</sup> s
Peak gate current	$t_p \leq 2\mu s, T_j = 80^{\circ}C$	$I_{GM}$	1	A	
Average gate power dissipation	$t_p \leq 10ms, T_j = 80^{\circ}C$	$P_{G(AV)}$	0.2	W	
Peak gate power dissipation	$t_p \leq 10ms, T_j = 80^{\circ}C$	$P_{GM}$	1	W	

ELECTRICAL CHARACTERISTICS( $T_j=25^\circ\text{C}$  unless otherwise specified)

Symbol	Test Condition	Quadrant		Ratings	Unit
IGT	$V_D=12\text{V}$ $R_L=30\Omega$	$T_2+$ G+	MAX.	6	mA
		$T_2+$ G-		10	
		$T_2-$ G-		10	
VGT	$V_D=12\text{V}$ $R_L=30\Omega$	ALL	MAX.	1.5	V
VGD	$V_D=V_{DRM}$ $R_L=3.3\text{k}\Omega$ $T_j=125^\circ\text{C}$	ALL	MIN.	0.2	V
IL	$I_G=1.2I_{GT}$	$T_2+$ G+	MAX.	15	mA
		$T_2+$ G-		25	
		$T_2-$ G-		15	
I <sub>H</sub>	$I_T=100\text{mA}$		MAX.	10	mA
dV/dt	$V_D=67\%V_{DRM}$ gate open $T_j=125^\circ\text{C}$		MIN.	500	V/ $\mu\text{s}$

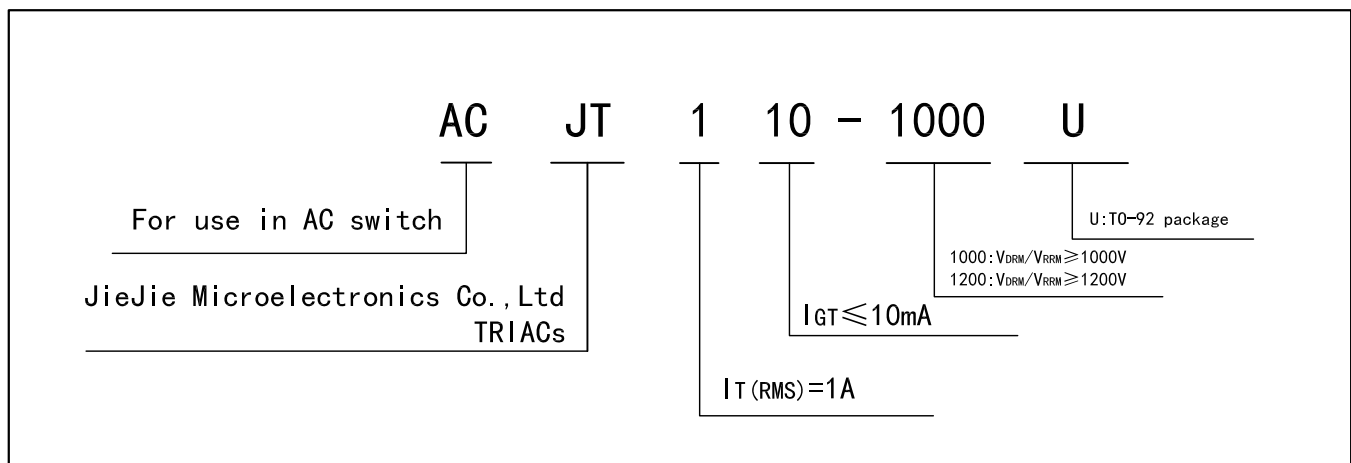
## STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V <sub>TM</sub>	$I_{TM}=1.4\text{A}$ , $t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.6	V
I <sub>DRM</sub> I <sub>RRM</sub>	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	10	$\mu\text{A}$
		$T_j=125^\circ\text{C}$	500	$\mu\text{A}$

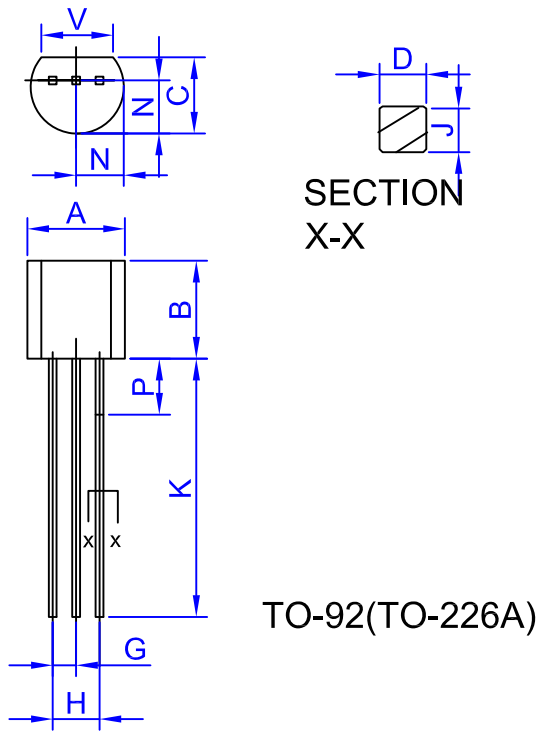
## THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
R <sub>th(J-C)</sub>	Junction to Case(AC)	TO-92	60	$^\circ\text{C}/\text{W}$

## ORDERING INFORMATION



PACKAGE MECHANICAL DATA



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.45	5.2	0.175	0.205
B	4.32	5.33	0.170	0.210
C	3.18	4.19	0.125	0.165
D	0.407	0.533	0.016	0.021
G	1.15	1.39	0.045	0.055
H	2.42	2.66	0.095	0.105
J	0.39	0.50	0.015	0.020
K	12.70	-	0.500	-
N	2.04	2.66	0.080	0.105
P	-	2.54	-	0.100
V	3.43	-	0.135	-

Marking:

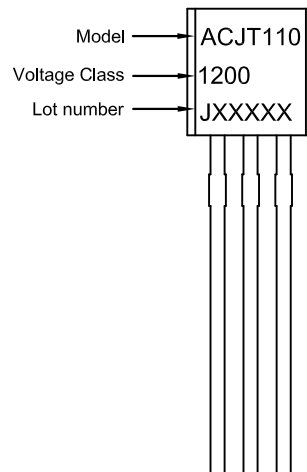


FIG.1: Maximum power dissipation versus average on-state current.

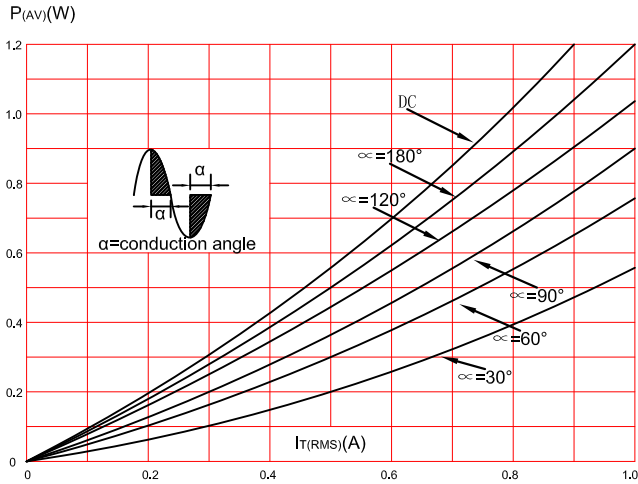


FIG.2: RMS on-state current versus case temperature.

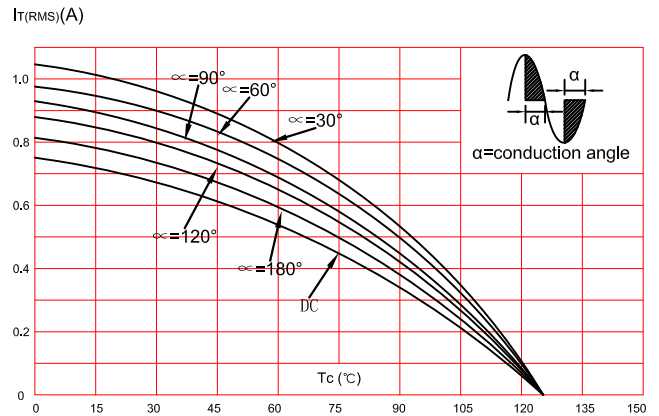


FIG.3: On-state characteristics (maximum values)

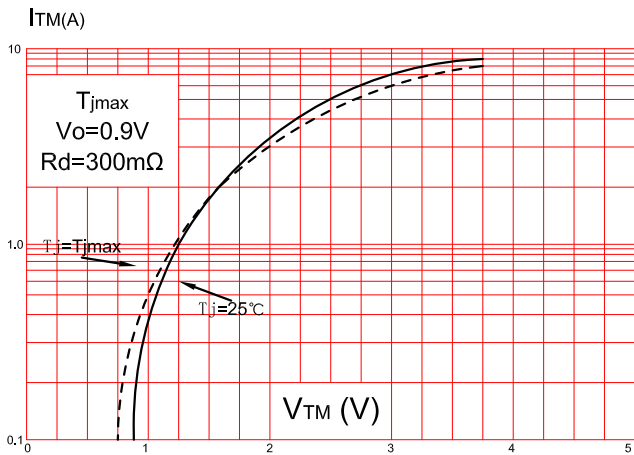


FIG.4: Surge peak on-state current versus number of cycles.

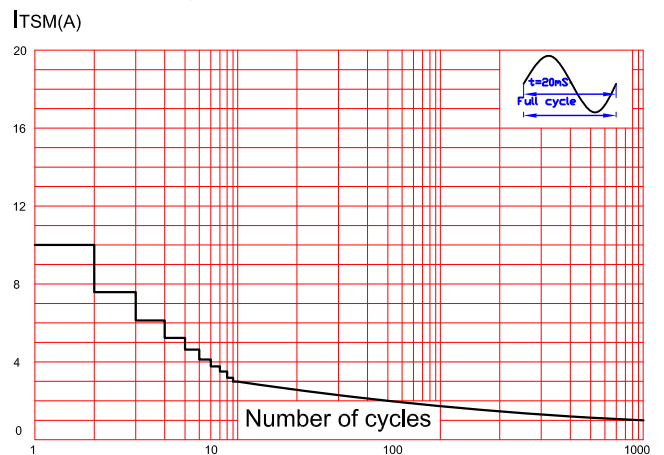


FIG.5: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

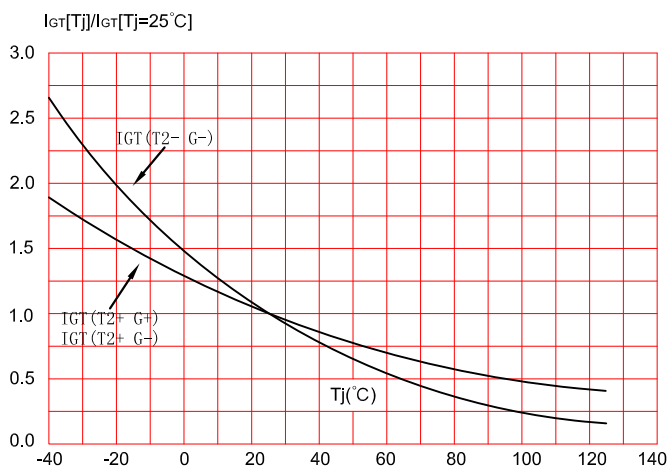


FIG.6: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

